Product Name: Topiramate  
Catalog No.: 3620  
Batch No.: 2  
CAS Number: 97240-79-4  
IUPAC Name: 2,3:4,5-Bis-O-(1-methylethylidene)-β-D-fructopyranose sulfamate

1. PHYSICAL AND CHEMICAL PROPERTIES

- **Batch Molecular Formula:** C_{12}H_{21}NO_{8}S  
- **Batch Molecular Weight:** 339.36  
- **Physical Appearance:** White solid  
- **Solubility:** DMSO to 100 mM, ethanol to 100 mM  
- **Storage:** Store at +4°C  
- **Batch Molecular Structure:**

2. ANALYTICAL DATA

- **HPLC:** Shows 100% purity  
- **\(^1\)H NMR:** Consistent with structure  
- **Mass Spectrum:** Consistent with structure  
- **Optical Rotation:** \([\alpha]_D = -38.1\) (Concentration = 0.4, Solvent = Methanol)  
- **Microanalysis:**

<table>
<thead>
<tr>
<th>Theoretical</th>
<th>Found</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon</td>
<td>42.47</td>
</tr>
<tr>
<td>Hydrogen</td>
<td>6.24</td>
</tr>
<tr>
<td>Nitrogen</td>
<td>4.13</td>
</tr>
</tbody>
</table>
Product Information

Description:
Anticonvulsant. Antagonizes GluK1 (formerly GluR5) kainate receptors (IC\textsubscript{50} = 0.46 μM), acts as a positive allosteric modulator of GABA\textsubscript{A} receptor-mediated currents, inhibits Na\textsubscript{v} channels (IC\textsubscript{50} = 48.9 μM) and inhibits L-type Ca\textsuperscript{2+} channels. Also inhibits carbonic anhydrase (CA) (K\textsubscript{v} values are 0.1 and 0.2 μM at rat CA II and CA IV respectively), which lowers intracellular neuronal pH. Deuterated analog also available. Please refer to IUPHAR Guide to Pharmacology for the most recent naming conventions. Please see product datasheet on www.tocris.com for full description.

Physical and Chemical Properties:
Batch Molecular Formula: C\textsubscript{13}H\textsubscript{21}NO\textsubscript{5}S
Batch Molecular Weight: 339.36
Physical Appearance: White solid
Minimum Purity: >99%

Storage: Store at +4°C

Solubility & Usage Info:
DMSO to 100 mM
ethanol to 100 mM

Stability and Solubility Advice:
Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath). Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are: SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.
SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References: